

REMARKS

The Office Action dated June 16, 2004 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1-10 have been amended to more particularly point out and distinctly claim the subject matter of the invention. New claim 11 has been added. Support for claim 11 may be found in the specification on page 5, lines 26-29 and page 6, line 33 – page 7, line 8. No new matter has been added. Claims 1-11 are respectfully submitted for consideration.

In the Office Action, claim 8 was objected to under 37 C.F.R. §1.75(c) as allegedly being in improper form because a multiple dependent claim cannot depend from another multiple dependent claim. The objection is respectfully traversed for the following reasons. Applicants respectfully submit that claims 7 and 8 are not multiple dependent claims. According to the preliminary amendment filed on June 12, 2000, the multiple dependencies were removed from claims 7 and 8. Claim 7 is dependent only upon claim 4, and claim 8 is also dependent only upon claim 4. A copy of the preliminary amendment filed on June 12, 2000 and a copy of the postcard receipt are enclosed herewith. Therefore, Applicants respectfully request consideration of claim 8 on the merits.

Claims 1, 4, 7, 9 and 10 were rejected under 35 U.S.C. §102(b) as being anticipated by Yahagi (U.S. Patent No. 5,619,551). The rejection is respectfully traversed for the reasons which follow.

Claim 1, upon which claims 2 and 3 are dependent, recites a method of allocating a channel in a mobile system. The method includes arranging, in the system, unallocated telecommunication channels between a base station controller and a base station, allocating in call set-up at least one of the telecommunication channels to the base station handling the call, and controlling the base station controller to transmit information to the base station on the telecommunication channel allocated thereto.

Claim 4, upon which claims 5-8 are dependent, recites a mobile system including a base station controller and at least a first and a second base station, which comprise transceiver units for establishing a telecommunication connection by radio signals to the subscriber terminals located in the base station coverage area and switching means for switching the base station transceiver units onto a particular channel of a plurality of optional telecommunication channels between the base station controller and the base stations. The base station controller comprises control means which, in call set-up, allocate at least one of the telecommunication channels to the first or the second base station for the call and which transmit a predetermined message indicating the allocated telecommunication channel to the base station to which the channel is allocated. The switching means of the first, and correspondingly, of the second base station are

responsive to the message for switching the base station transceiver units to the telecommunication channel assigned by the message.

Claim 9, upon which claim 10 is dependent, recites a mobile system base station, which includes transceiver units for establishing a telecommunication connection by radio signals to the subscriber terminals located in the coverage area of the base station. The mobile system base station further includes switching means for switching its transceiver units to particular channels of a plurality of optional circuit-switched telecommunication channels. The switching means are responsive to a message received by the base station in conjunction with the call set-up for switching a particular transceiver unit onto the circuit-switched telecommunication channel indicated by the message for the call.

Claim 11 recites a base station controller. The base station controller includes means for communicating with base stations via a plurality of optional telecommunication channels between the base station controller and the base stations. The base station controller also includes control means which are arranged to allocate, in call set-up, at least one of the telecommunication channels to a base station for a call and which are arranged to transmit a predetermined message indicating the allocated telecommunication channel to the base station to whom the channel is allocated.

The present invention provides a solution whereby telecommunication channels between a base station and a base station controller can be utilized more efficiently. A given telecommunication channel is only allocated for the duration of the call to a

transceiver unit of the base station handling the call. When the call terminates, the telecommunication channel will be released and it can be freely allocated to another transceiver unit. The same telecommunication channel can therefore be allocated call-specifically to various base stations. Thus, a pool of unallocated telecommunication channels is formed between the base stations and the base station controller; from which pool the base station controller allocates a free channel call-specifically to the base station that needs a channel for handling a call at a given time (Specification, page 2, line 34 – page 3, line 11).

As will be discussed below, Yahagi fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the advantages discussed above.

Yahagi discloses a cellular telephone exchange system which allows setting of connections between the base station transmitter-receivers and base station controllers based on movement of the mobile station. The system disclosed in Yahagi includes a plurality of radio base station transmitter-receivers and a plurality of base station controllers for controlling the radio base station transmitter-receivers. The system also includes a switch which allows optional setting of connecting conditions between the radio base station transmitter-receivers and the base station controllers, and a mobile telephone exchange unit for controlling the base station controllers. Yahagi allows for the performance of call channel switching control within the base station controller by changing the connecting conditions between the base station controllers and the radio base stations via a switch.

Applicants respectfully submit that Yahagi fails to disclose or suggest arranging unallocated telecommunication channels between a base station controller and a base station, as recited in claim 1. Yahagi does not mention any unallocated channels between a base station and a base station controller. Rather, Yahagi teaches that each one of the available channels between the base station controllers 2a and 2b is connected to a base station 1a to 1f (Yahagi, Figure 3 and Column 3, lines 13-17). In other words, the channels in Yahagi are always allocated between a base station and base station controller. Therefore, Yahagi fails to disclose or suggest arranging unallocated telecommunication channels between a base station controller and a base station.

In addition, Applicants submit that Yahagi fails to disclose or suggest that the allocation of an unallocated channel to a base station should be carried out in call set-up, as recited in present claim 1. Instead, Yahagi only discloses that reallocation of previously allocated channels is carried out when the mobile telephone exchange unit 3' observes the amount of movement by mobile station 5 using its traffic condition observation function (Yahagi, Column 3, lines 24-35). Thus, Yahagi fails to disclose or suggest that the allocation of an unallocated channel to a base station handling the call is carried out in call set-up.

Furthermore, Yahagi fails to disclose or suggest that the base station controller should be controlled to transmit information to the base station on the new telecommunication channel allocated thereto, as recited in present claim 1. Yahagi does not disclose transmitting any information to the new base station 1d to inform it about the

new allocated channel. Rather, Yahagi discloses that it is sufficient that only the network switch of the base station controller 2a is switched (Yahagi, Column 3, lines 38-40).

For at least the reasons discussed above, Yahagi fails to disclose or suggest **all** of the elements of claim 1. Claim 3 is dependent upon claim 1, and therefore should be found allowable for at least its dependence upon claim 1 and for the specific limitations recited therein.

Yahagi also fails to disclose or suggest all of the elements of claim 4. Claim 4 recites, in part, that a base station controller for a call allocates an available channel to a base station, and transmits a message indicating the allocated channel to the base station. As outlined above in reference to claim 1, Yahagi fails to disclose or suggest such limitations. In addition, Yahagi fails to disclose or suggest that the switching means of the first and second base station switch the base station transceiver units to the allocated channel as a response to the message indicating the allocated channel, as recited in present claim 4. According to Yahagi, the switching is carried out by the network switch 4 and the network switch of the base station controller 2a (Yahagi, Column 3, lines 32-40). Thus, Yahagi does not disclose that the switching is carried out by switching means of base stations.

For at least the reasons discussed above, Yahagi fails to disclose or suggest **all** of the elements of claim 4. Claims 6-8 are dependent upon claim 4, and therefore should be found allowable for at least their dependence upon claim 4 and for the specific limitations recited therein.

Claim 9 recites, in part, that a base station controller includes a switching means for switching a particular transceiver unit to a channel of a plurality of optional channels for a call as a response to a message received in conjunction with call set-up. Applicants respectfully submit that Yahagi fails to disclose or suggest that a base station includes such a switching means, and also fails to disclose that the switching is carried out according to a message received during call set-up. Rather, Yahagi only discloses that the switching should be carried out by the network switch 4 and the network switch of the base station controller 2a (Yahagi, Column 3, lines 32-40), and that the switching should be carried out when the mobile telephone exchange unit 3' observes the amount of movement by the mobile station 5 (Yahagi, Column 3, lines 24-35). Consequently, Yahagi does not disclose that the base station includes a switching means, nor does it disclose that switching is performed according to a message received during call set-up.

For at least the reasons discussed above, Yahagi fails to disclose or suggest all of the elements of claim 9. Claim 10 is dependent upon claim 9, and therefore should be allowable for at least its dependence upon claim 9 and for the specific limitations recited therein.

Therefore, Applicants respectfully request that the rejection under 35 U.S.C. §102(b) should be withdrawn because Yahagi fails to teach or suggest each feature of claims 1, 4, 7, 9 and 10.

Claims 2 and 5 were rejected under 35 U.S.C. §103(a) as being unpatentable over Yahagi in view of Tiedemann (U.S. Patent No. 5,987,326). The Office Action took the

position that Yahagi discloses all of the elements of claims 2 and 5, with the exception of the telecommunications channels being classified on the basis of their characteristics into at least two categories, i.e. primary telecommunication channels and secondary telecommunication channels, and in call set-up, a primary telecommunication channel, if available, is allocated to the base station, otherwise a free secondary telecommunication channel is allocated thereto. The Office Action then relies on Tiedemann to cure this deficiency in Yahagi. This rejection is respectfully traversed because the combination of Yahagi and Tiedemann fails to disclose or suggest all of the elements of claims 2 and 5.

Yahagi is discussed above. Tiedemann discloses a method and apparatus for controlling handoff in a communication system. The communication system provides for independent handoff of the fundamental code channel and supplemental code channels on the forward link. When the supplemental code channel is not in handoff, the supplemental code channels are only transmitted by the base station with the strongest pilot received at the subscriber unit. The Extended Handoff Direction Message, which directs the subscriber unit to the base stations currently transmitting data to it, separately specifies the base stations transmitting the fundamental code channel and supplemental code channels.

Applicants respectfully submit that Tiedemann, contrary to what is asserted in the Office Action fails to disclose or suggest allocating in call set-up a primary telecommunications channel, if available, to the call, otherwise allocating a free secondary telecommunications channel to the call, as recited in claims 2 and 5.

Tiedemann only discloses that the base station selected to transmit **on** both the fundamental and supplemental channels is the base station for which the associated pilot channel is received with the greatest strength (Tiedemann, Column 8, line 67 – Column 9, line 3). Tiedemann does not disclose that a primary or alternatively a secondary channel is allocated **in call set-up**, as recited in the present claims. Therefore, the combination of Yahagi and Tiedemann does not disclose or suggest all of the elements of claims 2 and 5.

Furthermore, Applicants note that claims 2 and 5 are dependent upon claims 1 and 4, respectively. Applicants submit that Tiedemann fails to cure the deficiencies in Yahagi as discussed above in reference to claims 1 and 4. Thus, claims 2 and 5 should be allowed for at least their dependence upon claims 1 and 4, and for the specific limitations recited therein.

Claim 3 was rejected under 35 U.S.C. §103(a) as being unpatentable over Yahagi in view of Tiedemann and further in view of Farias (U.S. Patent No. 4,891,806). The Office Action took the position that Yahagi and Tiedemann disclose all of the elements of claim 3, with the exception of the free communication channels being classified into categories on the basis of their data transmission capacity or quality such that the primary telecommunication channels have larger data transmission capacity or they are of better quality than the secondary communication channels. The Office Action then relies on Farias to cure this deficiency in Yahagi and Tiedemann. The rejection is respectfully traversed for the following reasons.

Yahagi and Tiedemann are discussed above. Farias discloses a method of receiving main and secondary channel data in a data modem. The method includes the steps of receiving a plurality of constellation symbols, determining which of the constellation symbols are associated with a main and secondary channel constellation, processing the main channel constellation symbols according to a method for extracting data from main channel constellation symbols, and processing the secondary channel constellation symbols according to a method for extracting data from secondary channel constellation symbols.

Applicants respectfully submit that Farias fails to disclose or suggest that the primary telecommunication channels have larger data transmission capacity or are of better quality than secondary telecommunication channels, as recited in claim 3. Farias makes no mention of the main channel having larger data transmission capacity than the secondary channel. Farias only discloses that the secondary channel is substantially more immune to noise than the main channel because it has a higher average energy level and fewer symbols (Farias, Column 16, lines 36-42). Consequently, the combination of Yahagi, Tiedmann, and Farias does not disclose or suggest all of the elements of claim 3.

Furthermore, Applicants note that claim 3 is dependent upon claim 1. Applicants submit that Farias fails to cure the deficiencies in the combination of Yahagi and Tiedemann as discussed above in reference to claim 1. Therefore, claim 3 should be allowed for at least its dependence upon claim 1, and for the specific limitations recited therein.

With respect to new claim 11, Applicants submit that claim 11 recites a base station controller with control means that allocate an available channel to a base station for a call, and transmits a message indicating the allocated channel to the base station. As outlined above in connection with claim 1, the cited prior art references fail to disclose or suggest such limitations.

Thus, Applicants respectfully submit that Yahagi, Tiedemann, and Farias, whether viewed alone or in combination, fail to disclose or suggest critical and important elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 1-11 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Amendment Transmittal
Petition for Extension of Time (3 months)
Preliminary Amendment of June 12, 2000 and postcard